Yushi Du

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EDUCATION

PEKING UNIVERSITY Beijing, China 09/2020–07/2024

School of Electronics Engineering and Computer Science

- B.S. in Intelligence Science and Technology, Overall GPA: **3.64/** 4, Junior GPA: 3.91/4
- TOEFL 106/120 with Speaking section 24/30

Core Coursework

Advanced Mathematics (I)	100	Introduction to Computer Systems	87
Practice of Programming in C&C++	91	Image Processing	90
Introduction to Visualization and Visual Computing	94	Introduction to Intelligent Robots	94
Intro. to Natural Language Processing	91	Signals and Systems	92

PUBLICATIONS

- **Y Du***, R Wu*, Y Zhao, H Dong. "Learning part motion of articulated objects using spatially continuous neural implicit representations." BMVC 2023
- R Wu*, C Tie*, **Y Du***, Y Zhao, H Dong. "Leveraging SE (3) Equivariance for Learning 3D Geometric Shape Assembly." Proceedings of the IEEE/CVF International Conference on Computer Vision. ICCV 2023

RESEARCH EXPERIENCE

Studying Visual Representation for Robot Articulated Object Manipulation 09/2022-07/2023

Independent Research, Supervised by Prof. Hao Dong, Center on Frontiers of Computing Studies, Peking University

- Lead the project, designed the method, carried out the main experiments, and lead the essay writing.
- Conducted experiments over large-scale PartNet-Mobility dataset, covering 3D articulated objects with diverse geometries.
- Quantitative and qualitative results demonstrated that our method outperformed baseline methods by approximately 20% on selected metrics.
- Accurately and smoothly modeled part motion and generated articulated objects with novel part poses reserving detailed geometries.
- Accepted by BMVC 2023

Studying Shape-Pose disentanglement for Geometric Shape Assembly 12/2022-06/2023

Independent Research, Supervised by Prof. Hao Dong, Center on Frontiers of Computing Studies, Peking University

- Carried out part of the experiments, contribute significantly to the discussion of method design and essay writing.
- Leveraged SE(3) equivariance that disentangled shapes and poses of fractured parts for geometric shape assembly
- Utilizing both SE(3)-equivariant and invariant representations with part correlations for multi-part assembly.
- Accepted by ICCV 2023

Discovering the Utility of 4D Spatial Representation on Robot Manipulation 12/2023-05/2024

Undergraduate thesis

- Utilizing common 3D spatial representation and 4D point cloud.
- Collected large-scale expert demonstration data on 3D object manipulation in simulated environments
- Conducted experiments on articulated object manipulation and reached a consensus conclusion.

SELECTED COURSE PROJECT

AI for Game of the Amazons

- Implemented Monte-Carlo tree search algorithm and basic decision-making algorithms to design an AI playing the Game of the Amazons

Model Compressing and Adversarial Training

- Setup deep neural network for image classification
- Implemented Model quantification, PGD attack method and different type of parameter normalization
- Examined different model performance

Machine Translation using Deep Language Models

- Implemented different language models for machine translation and examine their performances

Pose Estimation and 2D Navigation agent

- Implemented Pose Estimation and Navigation Algorithm using RobotSDK

AWARDS AND HONOR

Award for Academic Excellence, Peking University	09/2020
Award for Scientific Research, Peking University	09/2021
Award for Academic Excellence, Peking University	09/2022
Merit Student, Peking University	06/2023

EXTRACURRICULAR ACTIVITIES

1st place, National University Skiing & Skateboarding Championship,	PKU Alpine Team	02/2021
1st place, Beijing University Skiing & Skateboarding Championship,	PKU Alpine Team	01/2022
1st place, Beijing University Football League,	PKU Men's Soccer Team	05/2021
Starting goalkeeper of the university men's soccer team	PKU Men's Soccer Team	03/2021-06/2024
Team member of the university alpine team	PKU Alpine Team	12/2020-02/2023